

## **SECTION 18: BITUMINOUS SEALS**

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**18-01 GENERAL.** Bituminous seals shall conform to the requirements of Section 37, "Bituminous Seals," of the Standard Specifications except as modified herein.

### **18-02 SLURRY SEAL.**

**18-02.01 Scope.** Slurry seal shall conform to the requirements of Section 37.2, "Slurry Seal," of the Standard Specifications except as modified herein.

**18-02.02 Materials and Construction.** Slurry seal shall be State Standard Type II.

Asphalt emulsion shall be cationic "quick setting" CQS1h grade and conform to Section 94, "Asphaltic Emulsions," of the Standard Specifications.

Aggregate shall meet the requirements of a Type II grading and conform to Section 37-2.02C, "Aggregate," of the Standard Specifications except as modified herein. Aggregate shall be Type II consisting of sound, durable crushed stone with no round particles, and shall be of volcanic in origin and black in color. The percentage composition by weight of the aggregate shall conform to the following gradings:

<u>Sieve Sizes</u>	<u>Percentage Passing</u>
1/8" .....	100
No. 4 .....	90-100
No. 8 .....	65-90
No. 16 .....	40-70
No. 30 .....	25-50
No. 200 .....	5-15

The composition of dry aggregate in the slurry seal shall be 7.5% to 13.5% by weight of the theoretical asphalt content. Rate of application shall be 12 lb. to 18 lb. per square yard.

Slurry seal shall contain caboxilated polymer latex such as poly-chloroprene-methacrylic acid latex with polyvinyl alcohol or approved equivalent. The amount of latex shall be between 2 percent (2%) and 3 percent (3%) by weight of the asphalt residue content. Poly-chloroprene-methacrylic acid latex shall meet the following requirements:

<u>Test</u>	<u>Requirement</u>
Total Solid, % Min.	47
Average Particle Size, $\mu\text{m}$	0.30
pH at 77°F (25°C)	7
Brookfield Viscosity at 77°F (25°C)	350-500
Mechanical Stability, Min	650

The Contractor shall protect all manhole and valve covers from slurry seal by oiling or masking.

### **18-03 SEAL COATS.**

**18-03.01 Scope.** The type of seal coat (fog, fine, medium fine, medium, coarse or double) to be applied will be designated on the Plans or specified in the Special Provisions.

**18-03.02 Materials and Construction.** Pavement coating shall be of the type that may be applied cold. It shall be composed of a refined petroleum asphalt emulsion, fillers, and fibers such as Overkote manufactured by Reed and Graham, Inc., or approved equal.

Screenings shall be of 30 mesh blast sand composed of clean, hard, durable, uncoated particles free of clay or organic matters.

Sealer shall be mixed to a uniform, free-flowing consistency. Water shall be added to obtain a semi-fluid consistency. The amount of water added shall not exceed fifteen percent (15%) by volume.

Contractor shall remove all weeds and vegetation growing through the pavement surface to be sealed and spray the areas with suitable sterilant chemical. All surface cracks one-half inch (1/2") or wider in width shall be cleaned and filled with asphalt concrete. Cracks one-eighth inch (1/8") to one-half inch (1/2") wide shall be cleaned and filled with crack filler. Cracks smaller than one-eighth inch (1/8") in width shall be cleaned and filled with multiple coats of sealer. Remove oil and grease deposits by scraping, burning or the use of detergent. When detergent is used, the pavement shall be thoroughly rinsed with water. After the oil or grease deposits are removed, the areas shall be sealed with oil-spot sealant prior to seal coat application.

A tack coat consisting of one part emulsified asphalt binder (SS-1h) and four parts water shall be uniformly applied over the entire pavement surface at the rate of 0.05 to 0.10 gallon per square yard. Sweep out any "pools" of wet binder remaining in depressions. Allow the tack coat to dry before applying seal coat.

No seal coating work shall be performed when the ambient temperature is below 55°F or above 110°F or within 24 hours prior to or during rainfall.

Sealer shall be applied in continuous parallel lines and spread immediately by use of rubber face squeegees or power spreader.

Pavement surface to be sealed shall receive two coats of sealer. A primary seal coat application of a minimum thirty (30) gallons of undiluted sealer per one thousand (1,000) square feet of area shall be done to smooth out the rough surface. The surface after this primary application shall be uniformly smooth and show no evidence of coarse or uneven texture. As soon as the primary application is dry to the touch and will not scuff when walked on, another application shall be made. After the second application, the surface shall be allowed at least twenty-four (24) hours for complete curing.

The Contractor shall protect all manhole and valve covers from seal coat by oiling or masking.

**18-04 MEASUREMENT.** Bituminous seals shall be measured by the square foot installed.

**18-05 PAYMENT.** The contract unit price paid per square foot in place shall be considered full compensation for furnishing and placing bituminous seal, as required in the Special Provisions, shown on the Plans, directed by the Engineer and specified herein.